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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/980,568	03/12/2002	Pamela Hirtzer	37200-0001	5616

20350 7590 11/02/2004

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EXAMINER	
CHERNYSHEV, OLGA N	

ART UNIT	PAPER NUMBER
1646	

DATE MAILED: 11/02/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/980,568	HIRTZER ET AL.	
	Examiner	Art Unit	
	Olga N. Chernyshev	1646	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *23 August 2004*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *98-147* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *98-147* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Response to Amendment

1. Claims 98-99, 108, 110, 116-118 and 120-122 have been amended and claims 123-147 have been added as requested in the amendment filed on August 23, 2004. Claims 98-147 are pending in the instant application.

Claims 98-147 are under examination in the instant office action.

2. The Text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

3. Any objection or rejection of record, which is not expressly repeated in this action has been overcome by Applicant's response and withdrawn.

Specification

4. The disclosure is objected to because it contains an embedded hyperlink and/or other form of browser-executable code, see page 17, for example. Applicant is required to delete the embedded hyperlink and/or other form of browser-executable code. See MPEP § 608.01.

5. The use of the trademarks has been noted in this application, see page 14, for example. It should be capitalized wherever it appears and be accompanied by the generic terminology.

Although the use of trademarks is permissible in patent applications, the proprietary nature of the marks should be respected and every effort made to prevent their use in any manner which might adversely affect their validity as trademarks.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

6. Claims 98-147 are rejected under 35 U.S.C. 102(e) as being anticipated by Schenk, US Patent No. 6,787,523 (09/07/2004, filing date 11/30/1998).

Claims 98-147 are drawn to a method for prophylactically or therapeutically treating Alzheimer's disease by administration of sterile aqueous suspension of Aβ peptide in a regime effective to induce an immune response. Patent of Schenk (further on referred as to '523 patent) teaches a method of preventing or treating Alzheimer's disease by administration of Aβ peptide in a regime effective to induce an immune response (see claim 1 and also the entire text of the '523 patent, for example), thus, fully anticipating the instant claimed invention.

Specifically, independent claims 98 and 123 recite administration of Aβ suspension, which is disclosed in '523 patent in column 17, lines 20-21. Claims 99, 102-108, 124 and 127-133 recite different buffers to maintain a physiologically acceptable pH, which is disclosed in '523 patent, column17, line 13. Claims 100-101 and 125-126 recite a long form of Aβ, such as Aβ42 disclosed in '523 patent, column 2 lines 39-40. Claims 109-110 and 134-135 recite sucrose as a part of aqueous suspension, which is also taught by '523 patent, column 17, line 1 ("polysaccharides"). Claims 111-112 and 136-137 recite presence or absence of polysorbate 80, an emulsifying agent, which is recited in '523 patent, column 17, lines 12-13. Claims 113-117,

120, 138-142 and 145 recite different pharmaceutically accepted adjuvants, fully disclosed in '523 patent, see columns 15-16, for example. Claims 118-119 and 143-144 recite DPPC, biological lipid agent, which is taught by '523 patent, top at column 17. Claims 121-122 and 146-147 recite methods of administration of Aβ disclosed in '523 patent at bottom of column 14, for example.

Thus, '523 patent fully discloses the instant claimed invention, which is a method of treatment or prophylaxis of Alzheimer's disease by administration of sterile aqueous suspension of Aβ. '523 document does not disclose the process of preparation of Aβ suspension, as recited in steps of claims 98 and 123. However, the results of the same procedure (administration of the same composition for the same purpose, such as elicitation of an immune response), are reasonably expected to be the same. Where the claimed and prior art disclose processes that are identical or substantially identical in steps and used materials that are produced by identical or substantially identical processes, a *prima facie* case of either anticipation or obviousness has been established. The discovery of an inherent property of a prior art process can not serve as a basis for patenting that process. See *Ex parte Novitski*, 26 USPQ2d 1389 (Bd. Pat. App. & Inter. 1993) (The Board rejected a claim directed to a method for protecting a plant from plant pathogenic nematodes by inoculating the plant with a nematode inhibiting strain of *P. cepacia*. A U.S. patent to Dart disclosed inoculation using *P. cepacia* type Wisconsin 526 bacteria for protecting the plant from fungal disease. Dart was silent as to nematode inhibition but the Board concluded that nematode inhibition was an inherent property of the bacteria. The Board noted that applicant had stated in the specification that Wisconsin 526 possesses an 18% nematode inhibition rating.).

Claims 98-147 lack novelty over the '523 patent because even if a reference does not explicitly set forth every element of the claim, the reference may still be an anticipatory reference if the element is inherent in the disclosure. See *In re Robertson*, 169 F.3d 743, 745, 49 USPQ2d 1949, 1950 (Fed Cir 1999). In the instant case the '523 reference explicitly suggests the step of administering Aβ suspension for treatment or prophylaxis of Alzheimer's disease in a regime effective to induce an immune response, thus, fully anticipating the instant claimed invention.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

7. The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

8. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any

evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

9. Claims 98-147 are rejected under 35 U.S.C. 103(a) as being unpatentable over Schenk '523 patent as applied to claims 98-147 in section 6 above, and further in view of Newcombe et al. (Newcombe et al., 1965, Biochim. Biophys. Acta, pp.480-486).

Claims 98-147 are drawn to a method for prophylactically or therapeutically treating Alzheimer's disease by administration of sterile aqueous suspension of Aβ peptide in a regime effective to induce an immune response. '523 patent discloses a method of preventing or treating Alzheimer's disease by administration of suspension of Aβ peptide in a regime effective to induce an immune response (see reasons of record in section 6 of the instant office action). '523 patent does not expressly disclose preparation of Aβ aqueous suspension by (a) adjusting pH of the aqueous composition comprising Aβ to the level sufficient to solubilize Aβ; (b) filtering the aqueous solution of Aβ; and (c) adjusting the pH of the Aβ solution to form an aqueous suspension of Aβ, maintained at physiological pH by use of a pharmaceutically acceptable buffer.

Newcombe et al. describe a process of solubilization of amyloid fibrils at alkaline pH range and particularly at pH 9.5 (see the abstract, page 482, third paragraph and Figure 1, Figure 2 on page 483 and Discussion on page 485). As it is well known in the art the major component of amyloid as Aβ protein (also known as beta protein, amyloid Aβ or βA4), which in its longest

form, consists of 42 or 43 amino acids. As a suitable buffer Newcombe et al. used Sorensen's glycine buffer (see page 481, last paragraph)

At the time the invention was made, it would have been obvious to a person of ordinary skill in the art that in order to prepare a sterile aqueous suspension of Aβ to be used for immunization, one would mix lyophilized dry powder of Aβ protein in sterile water, or, alternatively, mix dry Aβ in water to prepare an aqueous composition, then (a) adjust pH of the aqueous composition to 9.5, for example, as taught by Newcombe et al. to dissolve said Aβ; (b) filter the Aβ solution for sterilization purposes; and (c) adjust the pH to physiological range by using a pharmaceutically acceptable buffer (because the intended use of the suspension is for administration to a human). One of ordinary skill in the art would have been motivated to do this because there appears to be no known or disclosed difference in efficiency of an aqueous suspension of Aβ protein to induce an immune response if it is prepared by mixing dry Aβ protein in sterile water *versus,* first, dissolving dry Aβ protein in water, second, filtering the solution to achieve the sterility necessary for immunization purposes, and, third, adjusting pH to physiological level suitable for immunization.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

10. Claims 98-147 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 98 and 123 are vague and indefinite for recitation "the production of antibodies". It is not clear what antibodies are intended by the claims. Clarification is required.

11. Claims 99-122 and 124-147 are indefinite for being dependent from indefinite claims.

Conclusion

12. No claim is allowed.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Olga N. Chernyshev whose telephone number is (571) 272-0870. The examiner can normally be reached on 8:00 AM to 5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Brenda G. Brumback can be reached on (571) 272-0961. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Certain papers related to this application may be submitted to Technology Center 1600 by facsimile transmission. Papers should be faxed to Technology Center 1600 via the PTO Fax center located in Crystal Mall 1 (CM1). The faxing of such papers must conform with the notices published in the Official Gazette, 1156 OG 61 (November 16, 1993) and 1157 OG 94 (December 28, 1993) (see 37 C.F.R. § 1.6(d)). NOTE: If Applicant *does* submit a paper by fax, the original signed copy should be retained by Applicant or Applicant's representative. NO DUPLICATE COPIES SHOULD BE SUBMITTED so as to avoid the processing of duplicate papers.

Official papers filed by fax should be directed to (703) 872-9306. If this number is out of service, please call the Group receptionist for an alternative number. Faxed draft or informal

communications with the examiner should be directed to (571) 273-0870. Official papers should NOT be faxed to (571) 273-0870.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Olga N. Chernyshev, Ph.D.

OLGA N. CHERNYSHEV, PH.D.
PATENT EXAMINER